

REMARKS

In response to the office action dated September 6, 2006, Applicants amended claim 2. Claim 18 was previously canceled, and claims 19-27 were previously withdrawn. Thus, claims 1-17 and 28 are presented for examination. Claims 1, 2, and 28 are in independent form.

35 U.S.C. § 112

Claims 2-4 and 8-17 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as their invention. Applicants amended claim 2, and therefore request that this rejection be withdrawn.

35 U.S.C. § 103

Claims 1, 3-13, and 15-17 were rejected under 35 U.S.C. § 103(a) as being unpatentable over either Kawanaka (JP 9-3755) or Ito (WO 01/11130), taken in view of Jackson (U.S. Patent No. 5,699,593) and Harwood (U.S. Patent No. 3,047,444). Applicants' claim 1 covers loop materials that include planar areas, raised areas defining loops, and rib areas surrounding the raised areas to anchor the loops. Kawanaka, Ito, Jackson, and Harwood, taken alone and in combination, fail to disclose each and every one of the claimed features.

Kawanaka discloses a nonwoven fabric that includes shrunk fibers and non-shrinking fibers that are adhered to one another in spaced apart locations using an embossing roll. See, e.g., Kawanaka, Abstract and Figure. Fiber protrusions extend from the nonwoven fabric between the points of adhesion. See, e.g., id. Kawanaka does not appear to discuss an orientation step or any other processing step likely to cause the adhered fibers to become detached from one another.

Ito discloses a nonwoven fabric that has been subjected to a heat embossing treatment to form non-embossed island regions surrounded by embossed sea regions. See, e.g., Ito, Abstract; Figs. 1 and 2. Ends of the fibers that make up the non-embossed island regions are fixed to the embossed face (i.e., the embossed sea regions) of the nonwoven fabric by heat and pressure.

See, e.g., id. Ito does not discuss an orientation step or any other processing step likely to cause those fiber ends to become detached from the embossed sea regions.

Jackson discloses a loop fastening material 25 that includes multiple yarns 82 that are bonded to an orientable backing substrate. See, e.g., Jackson, col. 3, lines 32-38; col. 4, line 30 – col. 6, line 29; Fig. 8. After bonding the yarns 82 to the backing substrate, the backing material and yarn laminate is oriented transverse to the lengthwise direction of the yarns 82, causing the yarns to become loftier. See, e.g., id., col. 3, lines 40-49. This transverse orientation step causes portions of the yarns 82 to become detached from the backing. See, e.g., id., col. 3, lines 47-53. To ensure that the yarns 82 are adequately bonded to the backing, Jackson explains that a secondary bond pattern 81 can be used to secure the yarns 82 to the backing. See, e.g., id., col. 6, line 63 – col. 7, line 22. Jackson notes, for example:

...[I]f the yarn fibers become too unattached in the transverse orientation step secondary bonding can be used to provide secure regular attachment without significant adverse effect on the loft created by the transverse orientation of the yarns. Id., col. 7, lines 18-22.

The Examiner contended that a person of ordinary skill in the art would have been motivated to apply Jackson's secondary bond pattern 81 (Fig. 8) to Kawanaka's and Ito's fabrics. But a person of ordinary skill in the art would not have been motivated to combine the teachings of Kawanaka, Jackson, and Harwood. Nor would a person of ordinary skill in the art have been motivated to combine the teachings of Ito, Jackson, and Harwood. As discussed above, the purpose of Jackson's secondary bond is to reattach yarn fibers that become detached from the backing during transverse orientation of the yarn/backing laminate. However, neither Kawanak nor Ito discuss a transverse orientation step or any other processing step that would likely cause their fibers to be come detached from their points of adhesion or embossed regions, respectively. Thus, a person of ordinary skill in the art would not have been motivated to add Jackson's secondary bonds to Kawanaka's or Ito's fabrics.

The Examiner also contended that Harwood describes conventional adhesive bonding techniques that result in the formation of ribs. Without conceding that Harwood's adhesive

bonding techniques form ribs, Applicants submit that, like Jackson, Harwood fails to provide any motivation for a person of ordinary skill in the art to apply an additional bonding pattern to Kawanaka's and Ito's fabrics.

In view of the discussion above, Applicants request reconsideration and withdrawal of the rejection of claims 1, 3-13, and 15-17.

Claims 2-4 and 8-17 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Jackson in view of Harwood. Applicants' claim 2 covers loop materials that include open areas, raised areas defining loops, and rib areas surrounding the raised areas to anchor the loops. Jackson and Harwood, taken alone and in combination, fail to disclose each and every one of the claimed features.

As noted above, Jackson discloses a loop fastening material that includes multiple yarns that are bonded to a backing substrate and then, after orientating the yarn/backing laminate, are further pattern bonded to the backing substrate. Harwood describes a net-like nonwoven web that includes multiple openings 42 and a network portion 43. See, e.g., Harwood, col. 12, lines 23-37; Fig. 20. A stretch-strengthenable binder 44, 45 is applied to the network portion 43 of the nonwoven web in order to reinforce the nonwoven web. See, e.g., id., col. 12, lines 38-53. Harwood notes that it is desirable for the nonwoven web to be as porous as possible. See, e.g., id., col. 12, lines 15-22.

As acknowledged by the Examiner, Jackson does not disclose ribs or open areas free of fibers of the web. The Examiner, however, contended that Harwood discloses ribs and open areas and that it would have been obvious to a person of ordinary skill in the art to modify Jackson's loop fastening material to include the adhesive ribs and the openings or open areas disclosed by Harwood. However, a person of ordinary skill in the art would not have been motivated to combine the teachings of Jackson and Harwood, as suggested by the Examiner. In fact, a person of ordinary skill in the art would have been discouraged from making such a combination. If Jackson's continuous backing material were replaced with the lace-like network of Harwood, the bonding pattern 81 utilized by Jackson, and thus any ribs that would arguably be formed by combining the teachings of Jackson and Harwood,¹ would result in the bonding

¹ Applicants do not concede that the combined teachings of Jackson and Harwood would result in ribs, as claimed.

material extending through the open areas of Harwood's lace-like network. This would diminish Harwood's purpose of providing a patterned web that is "very, very porous or open."

Furthermore, while Harwood describes other bonding patterns, such as patterns of solid dots, that may arguably allow Jackson's yarns to be bonded to Harwood's lace-like network without substantially interfering with the open areas of Harwood's lace-like network, such bonding patterns would not result in rib areas surrounding raised areas, as claimed. Nor do Jackson or Harwood provide any motivation for using bonding patterns that would surround raised fiber areas without interfering with Harwood's openings.

In addition, Applicants maintain that replacing Jackson's continuous backing material with the lace-like network of Harwood would make it difficult or impossible to securely adhere Jackson's yarns to the backing material and, as a result, would likely reduce the peel performance of the resulting loop fastening material. The Examiner contended in the office action that there is no reason to consider it to be impossible to securely adhere Jackson's yarn to the backing material. But there is no disclosure in any of the cited references to indicate how this might be done. Thus, Applicants maintain that a person of ordinary skill in the art would have been discouraged from combining the teachings of Jackson and Harwood in the manner suggested by the Examiner for this reason as well.

In view of the discussion above, Applicants request reconsideration and withdrawal of the rejection of claims 2-4 and 8-17.

Claim 28 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Jackson in view of King (U.S. Patent No. 5,595,567). Applicants' claim 28 covers loop materials that include planar areas, raised areas defining loops, and rib areas surrounding the raised areas to anchor the loops. The rib areas that are formed substantially entirely of fused fibers of a nonwoven web. Jackson and King, taken alone and in combination, fail to disclose or suggest each and every limitation of claim 28.

As discussed above, Jackson discloses a low-cost loop fastening material that includes multiple yarns that are bonded to a backing substrate and then, after orientating the yarn/backing laminate, are further pattern bonded to the backing substrate. King discloses female nonwoven fastening component 22 that includes a backing material 34 joined with a nonwoven web 30. See, e.g., King, col. 3, lines 31-32; Figs. 1-3. The nonwoven web 30 includes filaments 36 that

are secured to each other at fixed regions by inter-fiber bonds 32. See, e.g., id., col. 3, lines 36-40; col. 5, lines 57-67. Construction bonds 39 form a construction bond pattern 40 that joins the nonwoven web to the backing. See, e.g., id., col. 3, lines 43-45; Figs. 5-7.

As acknowledged by the Examiner, Jackson fails to disclose ribs that include fused fibers of a nonwoven web. The Examiner, however, contended that King discloses ribs including fused fibers, and that it would have been obvious to modify the structure of Jackson to utilize raised bonded regions made of the filament material described in King. But a person of ordinary skill in the art would not have been motivated to substitute King's inter-fiber bonds for Jackson's secondary bond pattern. As discussed above, the purpose of Jackson's secondary bond is to secure Jackson's yarns to his backing. The inter-fiber bonds described in King, in contrast, are restricted to the nonwoven material and do not secure the nonwoven material to the backing. Thus, such a combination would fail to achieve the result for which Jackson's secondary bonds were intended.

Moreover, a person of ordinary skill in the art would not have been motivated to use King's inter-fiber bonds in addition to the secondary bonds disclosed in Jackson. Unlike King, which describes a web of nonwoven material, Jackson merely describes strips of yarn that extend along a substrate. There is no indication that Jackson's narrow yarn strips would benefit from the inter-fiber bonds described by King. In addition, Jackson stresses that a purpose of his invention is to provide a low-cost loop fastening material (See, e.g., col. 1, lines 5-7). Adding additional bonds, such as King's inter-fiber bonds, would unnecessarily increase the cost of King's fastening material, and thus discourage a person of ordinary skill in the art from making such a combination.

In view of the discussion above, Applicants request reconsideration and withdrawal of the rejection of claim 28.

No fee is believed to be due at this time. Please apply any charges or credits to deposit account 06-1050.

Applicant : William Shepard et al.
Serial No. : 10/735,447
Filed : December 12, 2003
Page : 11 of 11

Attorney's Docket No.: 05918-209001 / 99999

Respectfully submitted,

Date: November 2, 2006

A handwritten signature in dark ink, appearing to read "Phil Hamlin", written over a horizontal line.

Michael Hamlin
Reg. No. 54,149

Fish & Richardson P.C.
225 Franklin Street
Boston, MA 02110
Telephone: (617) 542-5070
Facsimile: (617) 542-8906